**WHAT IS CLAIMED IS:**

1. An adaptive step size method for power control in wireless communication mobile terminal, it includes steps:

5  Obtain the power control information whose number is previously set in previous power control cycle and that in current power control cycle;

Determine the power control step size in current power control cycle according to the obtained power control information whose number is previously set in previous power control cycle and that in current power control cycle.

2. The method according to claim 1, wherein said power control information
10 whose number is previously set in previous power control cycle is $PC_{attribute\ N-1}$、$PC_{attribute\ N-2}$、…、$PC_{attribute\ N-(n-1)}$ and corresponding $PC_{step\ size\ N-1}$、$PC_{step\ size\ N-2}$、…、$PC_{step\ size\ N-(n-1)}$, the said power control information in current power control cycle is $PC_{attribute\ N}$, and the said current PC step size is $PC_{step\ size\ N}$.

3. The method according to claim 2, further including the following steps:

15 If current $PC_{attribute}$ and previous $PC_{attribute}$ whose number is set increase or decrease continuously, the current $PC_{step\ size\ N}$ enlarges based on $PC_{step\ size\ N-1}$;

If current $PC_{attribute}$ and previous $PC_{attribute}$ whose number is set increase or decrease discontinuously, the current $PC_{step\ size\ N}$ cuts down based on $PC_{step\ size\ N-1}$.

20 4. The method according to claim 3, wherein said current $PC_{attribute}$ is determined by base station according to the comparison results of $SINR_{received}$ with $SINR_{target}$.

5. The method according to claim 1, wherein the change value of the PC step size in the said current PC cycle can be determined according to the tendency of the change value of the PC step size of transmitting power whose number is previously set.

6. The method according to any one of claims 1-5, wherein said PC method can be applied to uplink closed-loop PC or downlink closed-loop PC.

7. The method according to claim 6, wherein said power control method can be applied to wireless communication system based on CDMA, wireless communication system based on GSM and AMPS mobile communication system.

8. The method according to claim 1, further including the following steps:

Store $PC_{attribute}$ whose number is set in previous PC cycle and corresponding $PC_{step\ size}$ whose number is set in the memory unit; and

Store current $PC_{attribute}$ and $PC_{step\ size}$ into the memory unit in order to determine the $PC_{step\ size}$ in the next PC cycle.

9. An adaptive step size method for power control in wireless communication system, it includes steps:

Obtain the power control information whose number is previously set in previous power control cycle and that in current power control cycle;

Determine the power control step size in current power control cycle according to the obtained power control information whose number is previously set in previous power control cycle and that in current power control cycle.

10.    The method according to claim 9, wherein said power control information whose number is set in previous power control cycle is PC $_{attribute\ N-1}$、 PC $_{attribute\ N-2}$、 ... 、 PC $_{attribute\ N-(n-1)}$ and corresponding PC $_{step\ size\ N-1}$、 PC $_{step\ size\ N-2}$、 ... 、 PC $_{step\ size\ N-(n-1)}$, the PC attribute in the said current power control is PC $_{attribute\ N}$, and the said current PC step size is PC $_{step\ size\ N}$.

11. The method according to claim 9, further including the following steps:

If current PC $_{attribute}$ and previous PC $_{attribute}$ whose number is set increase or decrease continuously, the current PC $_{step\ size\ N}$ enlarges based on PC $_{step\ size\ N-1}$;

If current PC $_{attribute}$ and previous PC $_{attribute}$ whose number is set increase or decrease discontinuously, the current PC $_{step\ size\ N}$ cuts down based on PC $_{step\ size\ N-1}$.

12. A wireless communication system, it includes an algorithm processing unit for PC, a memory unit, a signal processing unit, a receiving unit and a transmitting unit, wherein

said memory unit used to store previous and current PC step size and PC attribute;

said receiving unit receives the signal transmitted by the mobile terminal and sends SINR value of the signal to said algorithm processing unit for PC;

said algorithm processing unit for PC compares SINR $_{target}$ value with SINR $_{received}$ value of the signal transmitted by the mobile terminal in order to determine the attribute of current PC step size and to detect the PC step size and PC attribute in previous PC cycle from the memory unit;   if PC attributes in previous and current PC cycle increase or decrease continuously, then the PC step size in

current PC cycle enlarges based on previous step size; if PC attributes in previous and current PC cycle increase or decrease discontinuously, then the PC step size in current PC cycle cuts down based on previous step size and the current PC step size and PC attribute are sent to the signal processing unit;

5      said signal processing unit inserts current PC step size and PC attribute into the downlink transmitting signal and transmits them to the transmitting unit;

said transmitting unit transmits them to the mobile terminal.

13. A mobile terminal, it includes a transmitting unit, a receiving unit, a signal processing unit, a memory unit and an algorithm processing unit for power control,

10     said receiving unit receives PC command from the BS and sends PC attribute to the algorithm processing unit for power control;

said memory unit stores previous and current PC step size and PC attribute;

said PC algorithm processing unit for PC detects current PC attribute and the PC step size and PC attribute in previous PC cycle from the memory unit, if PC
15     attributes in previous and current PC cycle increase or decrease continuously, then the PC step size in current PC cycle enlarges based on previous step size; if PC attributes in previous and current PC cycle increase or decrease discontinuously, then the PC step size in current PC cycle cuts down based on previous step size and the current PC step size and PC attribute are sent to the
20     signal processing unit.

said signal processing unit adjusts terminal transmitters according to the received PC command;

said transmitting unit transmits signals according to the adjusted transmitting power.

5

10

15